Review of Neurology and Psychiatry

(Vol. V. No. 1.)

1. A Plea for the Study of the Intermedio-Lateral Cell-System of the Spinal Cord. A. Bruce and J. H. H. Pirie.
2. A Report of Two Cases of General Paresis with Focal Symptoms. A. Hoch.

1. *Intermedio-Lateral Tract.*—It is known that division of the connecting fine medullated fibres between the sympathetic and the spinal roots causes a *reaction a distance* in the cells of the intermedio-lateral tract; also that division of the cervical sympathetic produces similar cell-changes in the corresponding intermedio-lateral tract and not beyond it. The analogy of the relationships of the splanchnics to the cord suggests for them a similar origin. Bruce and Pirie, in their interesting article, report two cases, with autopsy, in which there was involvement of the sympathetic system and lesions of the intermedio-lateral tract adequate to have produced the symptoms in question. In one case loss of sweating in the lower extremities had developed during the course of an acute atrophic paralysis in an adult. The other case was one of acute exophthalmic goitre, in which death took place during an access of hyperthyroidism. In the first case, there was complete flaccid paralysis of the muscles of the abdomen and of both lower extremities. The case had a sudden onset, and during the four months of its duration there was an intermittent temperature of hectic type from 99°-101°, and later 101°-102°; once as high as 106°. With many of the accessions of temperature there was profuse perspiration above the level of the sixth intercostal nerve, while below a sinuous line two and a half inches above Poupart's ligament there was absolute loss of sweating except over a small area on the inner side of both thighs. Abdomen perspired in irregular patches. On autopsy of this case a congestive and hemorrhagic condition was found in the lumbar and sacral and lower dorsal segments, with partial thrombosis of the anterior spinal vein and in some of the arteries of the posterior roots and in a few of the lateral coronary branches passing towards the intermedio-lateral tract. Motor cells were degenerated, both of the anterior horn and the intermedio-lateral tract. The direct cerebellar tract and Clarke's column were only slightly affected. The writers conclude that there is a special area for sweat secretion in the lower limb, and suggest a special examination of this area, in suitable cases, in the intermedio-lateral tract.

In the case of exophthalmic goitre reported, the nerve-cell changes were limited to those cells contained in the intermedio-lateral tract. They were most pronounced in the 3 D. and 4 D. segments, less in the 2 D. and 5. D., and slight in the 1 D. and 6 D. segments.

The only deductions to be drawn are, apparently, that it is in the intermedio-lateral tract of the segments involved that we should look for the nervous lesion of this disease, inasmuch as it is these segments which give origin to the roots, stimulation of which produces retraction of the upper eye-lid, protrusion of the eye-ball, acceleration of the heart, and sweating and vaso-regulation of the upper part of the body. The writers are not prepared to say that this nervous lesion is the primary one in exophthalmic goitre.

2. *Two Cases of General Paresis.*—Dr. Hoch presents careful histories

and post-mortem findings showing, in the first case, intense processes, more marked on the left side, which had given rise to apoplectiform attacks with subsequent focal symptoms. The patient had exhibited sensory aphasia, explained by changes in the first temporal convolution; and a peculiar visual disorder due to changes in both calcarine fissures. The visual disorder was bilateral. The patient was not blind, but bumped into objects on either side. His attention on the right side could not be attracted by movements or objects, and on the left side only to about 50°, and this with difficulty and to a limited degree.

In the second case similar intense processes gave rise to convulsions, followed by transient paralysis in one leg and aphasia; later, twitchings and loss of power in right arm and again aphasia. The right arm presented at first ataxia; then, after a slight apoplectiform attack, athetosis. The latter ceased after renewed attacks and gave place to twitching, while the arm became more helpless and the reflexes of that side increased. The aphasia was characterized by an almost total inability to speak or write, but there was also marked dementia. On autopsy there was found a marked general paralytic process with greater involvement of the left side, and special involvement of the anterior central and first temporal convolutions and the angular gyrus. The motor tracts were degenerated, left more than right. The third frontal convolution was not involved in this case.

(Vol. V. No. 2.)

1. Circumscribed Hemorrhagic Cortical Encephalitis, with the Report of a Case in which the Lesion was Limited to the Motor Zone, the Chief Clinical Manifestations Being Jacksonian Epilepsy. C. K. Mills.
2. Eight Cases of Hereditary Spastic Paraplegia. E. Jones.
3. An Investigation Into the Arrangement of the Achromatic Substance of Nerve Cells, and of the Changes Which It Undergoes in Various Forms of Mental Diseases. W. M. Smith.

1. *Cortical Encephalitis.*—Mills reports a case clinically and pathologically. The patient was an old woman of eighty-three. Jacksonian attacks occurred over a period of about a week before death, and involved the left face and left hand. During attacks the left eye was closed, brow wrinkled, left nostril dilated and the platysma contracted; there was no frowning or movement of the jaws or eye-balls. The movement of the hand was confined to the deep extensors of the fingers and thumb and group of ulnar extensors. Between convulsions there was great weakness of the lower left face and left arm with wrist-drop. Upper arm and shoulder girdle movements were possible, but were also weak. Tongue protruded to the left. Left conjunctiva greatly inflamed. Sensation and reflexes normal. There was almost complete loss of convergence and of movement of eyes to left and of associated upward eye movements, the latter being more marked on right side. Necropsy showed an enlarged soft heart and patches of sclerosis, and ulceration of the aorta. There was a limited area of softening of the cortex cerebri anterior to the bottom of the central fissure due to hemorrhage and a hemorrhage of recent origin, in the outer portion of the right occipital lobe. Dr. Spiller's microscopical report was, briefly, that there were numerous hemorrhages within the cortex and a very few in the subjacent white matter. They were limited

in extent, the transition from the normal to the hemorrhagic cortex being quite sharp. The adjacent pia was hemorrhagic and contained numerous fatty granular cells and round cells. The affected cortex contained considerable black granular pigment. There was slight round cell infiltration about the small vessels of the peduncles.

2. *Hereditary Spastic Paraplegia.*—Jones' eight cases were of a single childship. Symptoms were the same in all the cases with slight variations. There were in each case spasticity of the lower limbs, talipes equino-varus and changes in the reflexes indicative of an organic affection in the pyramidal tracts. Paresis was slight. The inequality in degree of the cardinal signs was not proportional to the age of the patients. The arm jerks in all were increased. The jaw jerk was obtained only in the two worst cases. In no case were pseudo-bulbar symptoms present. All cases affected were boys, the ninth child of the family, a girl, escaping. No assignable cause was found. All cases showed first evidences when beginning to walk, between ages of one and two years. All the cases ran a similar progressive course, never reaching total incapacity. No cases were found in the ancestry going back 150 years.

3. *Nerve Cells in Mental Diseases.*—Two methods were employed; viz., Bethe's original and Lugaro's colloidal silver method. The former to show the achromatin arranged as fibrils streaming through the cell and indicating nerve-cell relationship and conduction; the latter to show the substance arranged as an interlacing meshwork in the cells and greater detail of structure. Ramon-y-Cajal's No. 3 method and the pyridin methods of Donaggio were also tried. Brain tissue from healthy animals were used for comparative purposes. After a review of some theories of others of the intracellular fibrillary arrangement the pericellular network, anastomosis, development of cells, etc., the author gives his own investigations on normal material from the ox, sheep, pig, and cat, and then states the pathological changes in the neurofibrillar elements of nerve-cells which he claims to have met with in thirty cases of insanity. The precentral convolution was always examined, and in many cases parts of the medulla, cord and cerebellum also. Several interesting drawings accompany the descriptions. Space will not permit report of the changes found except to say that the achromatic structure of the cells as described is profoundly affected in mental diseases, and that the changes differ in degree rather than in kind in the various conditions. Six cases of general paresis, six of chronic brain atrophy, two of epileptic dementia, three of chronic mania, one of diabetes mellitus with melancholia, and the others of dementia, were studied.

Chas. E. Atwood (New York).

Miscellany

Family Care of the Insane and Feeble-Minded. Alfred Petren (Hygiea, 1905).

This is a paper which describes the author's travels in Germany, undertaken for the purpose of determining the status of this subject in the latter country. As a purely personal narrative it loses some value from the fact that a number of German psychiatrists had already gone upon record on the subject of family care of mental maladies; so far at least as their personal experience is concerned. (Alt, Wahrendorff,